

WDM OPTICAL TRANSMISSION SYSTEM WITH PASSIVE HUB

ABSTRACT OF THE DISCLOSURE

5 A method and apparatus for a wavelength division multiplexing (WDM) optical transmission system wherein the optical transmission system has an optical signal transmitter which functions as a passive hub, in which only optical signal processing is performed, while associated electronic signal processing is performed outside the passive hub. The passive hub includes upconverter devices that place the optical signal bands at
10 frequencies that allow separation of the bands at a detector. The detectors are thus loaded with more than one wavelength at a time. The optical transmission signals are optically combined and/or amplified onto a single fiber that is fed to a headend device, where the wavelengths of the optical transmission signals are demultiplexed and fed to the receivers.